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THE SILVER INSTITUTE LETTER

INFORMATION ON SILVER FOR INDUSTRY

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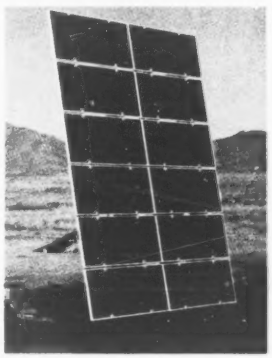
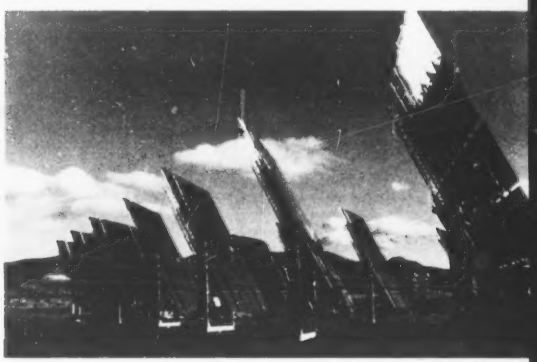
## ADVANCED DESIGN HELIOSTATS DEVELOPED





Silvered glass used to convert the sun's rays to electric power is the star performer at the Second-Generation Heliostat Workshop opening September 30, in Albuquerque, New Mexico. Operated by the Sandia Corporation, for the U.S. Department of Energy, the workshop will be attended by over 25 companies interested in constructing large scale solar power plants, including Southern California Edison, Arizona Electric Power, Nevada Power Co., Texas-Electric Service Co., Colorado-Utah Electric Association, Hawaii Electric Co., and a delegation from Israel.

The Sandia facility, described in The Silver Letter of May 1977, has become a major center for mirror technology. Silver itself is the best reflector, with an average solar reflectance of 98 percent. This value cannot be entirely achieved because silver must be applied behind glass. New smooth float-glass 0.1 millimeter thick achieves a reflectance of 94 to 95 percent. However, the major concern of the Workshop is performance. Some mirrors have developed dark spots. Research to eliminate this problem has been closely followed by the Silver Institute staff since 1975 in **New Silver Technology.** The solution to flat mirror spotting will be reported at this meeting. It is the use of automobile windshield technology. The silvered back of the glass, after a protective coating is applied, is coated with a polyvinyl butyrate resin and then covered with glass, autoclaved to produce a laminate that has so far withstood degradation for five years. Second-generation heliostats are made by The Boeing Company (*as pictured above left*), Northrop Corp., McDonnell Douglas Corp., and Martin-Marietta Corp., each of which are tested and demonstrated at Albuquerque.

The Sandia Corporation is responsible for two types of reflectors. The one pictured above right used to heat liquids to 1000 F. The other a trough type to heat liquids to 700 F. Troughs require curved mirrors. One solution is to laminate the silvered glass with a thin steel sheet, as detailed on page 22 of the July 1981 issue of New Silver Technology.

## BÉLA BARTÓK, YURY GAGARIN, AND POPE JOHN PAUL II PORTRAYED ON SILVER COINS OF 1981

Although the Machin portrait of Queen Elizabeth II will be shown on more different 1981 coins than the portraits of any other person, many other fascinating personages of historical or current significance are featured on the sparkling silver coins of 1981. For those who love music, Hungary has issued the 500 Forint legal tender **silver coin,** *shown at right,* **honoring Béla Bartók** who was acclaimed by the famous violinist Yehudi Menuhin as the greatest composer of our age.

The obverse of this coin shows Bartók in profile, wearing a hat, against a map of the world, symbolizing the international appeal of his work, while the reverse features the opening bars of Bartók's "Allegro Barbaro". This coin is 64 percent pure silver, weighs 25 grams and measures 40 mm in diameter. Additional information may be obtained from **Paramount Coin Corporation,** One Paramount Plaza, Englewood, Ohio 45322.

For space enthusiasts, for the first time, a nation has issued a coin to commemorate the 20th **anniversary of the first manned space flight by Russian,**

**Yury Alekseyevich Gagarin.** Czechoslovakia recently minted a 50 percent pure silver legal tender coin, which was placed on sale at all branches of the Czechoslovakian State Bank, with a face value of 100 korun, which measures 29 mm in diameter and weighs 9 grams. This coin pictures Gagarin in his space helmet and a stylistic track of a rocket. Orders may be placed through **Artia,** ve Smekach 30, P.O. Box 790, 111 27 Prague 1, Czechoslovakia.

**Pope John Paul II** is portrayed on the obverse of an 835 fine silver 500 lire coin issued this year by the Vatican City. The reverse of this coin bears the Polish-style arms assumed by the pontiff. This attractive silver coin measures 29 mm in diameter and weighs 11 grams, and can be purchased from the *Governatorato, Segretaria Generale, Ufficio Filatelico-Numismatico, 00120 Citta del Vaticano,* Vatican City, Europe.

And for numismatists, and just plain coin collectors, who love coins of ancient times, San Marino has struck three coins commemorating the **2,000th anniversary of the death of the famous ancient poet, Virgil,** and depicting scenes from his many poems. Two different 835 fine silver 500 lire coins, measuring 29 mm in diameter and each weighing 11 grams depict a flute player of 2,000 years ago, seated under a tree playing his flute and the second coin shows a farmer of the same period, sowing seeds. The third legal tender coin in this set is a 1,000 lire coin of 835 fine silver, which weighs 14.6 grams and measures 31.3 mm in diameter, and shows a dramatic figure of a mounted soldier with Roman armor and a Greek styled helmet being crowned with a laurel wreath. This set of coins may be obtained from **The Numismatic Studio,** P.O. Box 747, Westbury, N.Y. 11590.

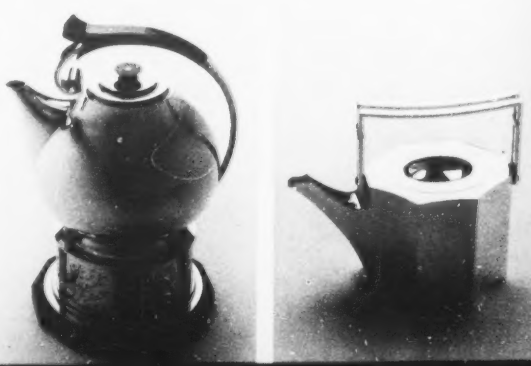
Of current significance, the **East Caribbean Currency Authority (ECCA),** comprising seven territories in the West Indies, has issued a $10 legal tender 925 fine silver proof coin, commemorating the 10th anniversary of the Caribbean Development Bank. The chief aim of ECCA is to provide a common currency for Anguilla, Antigua-Montserrat, Dominica, Grenada, St. Kitts-Nevis, St. Lucia and St. Vincent.

The reverse of this silver proof coin (*pictured at right*) depicts Sir Francis Drake's famous sailing ship, "The Golden Hind". Each silver proof coin weighs 28.28 grams and measures 38.61 mm in diameter. Only 10,000 have been struck for worldwide distribution. For ordering information, write to the **British Royal Mint,** 128 Passaic Avenue, Fairfield, New Jersey 07006.

## DENMARK, SWEDEN, U.S.—THE FOCUS IS SILVER

During the past year, the Danish firm of silversmiths, **Hans Hansen Sølvsmedie A/S,** Platinvej 29, 6000 Kolding, Demark has celebrated the internationally famous Karl Gustav Hansen's 50 years as an active silversmith through exhibits of his work. The pictured teapot with chafing dish is his final apprenticeship test-piece made in 1934, for which he was awarded a silver medal. Since then, a veritable treasure-trove of coffee-pots, teapots, jugs, forks, spoons and jewelry has been created by his gifted fingers. The other photograph shows one of his latest works—a coffee/teapot in sterling silver, made 45 years after that early test piece.

Confirming the international appreciation of silver as an art form, from October 1 through October 31, two of Sweden's leading silversmiths, Jan Lundgren and Kristian Nilsson, will be featured in a **"Swedish Art in Silver"** show at the **American-Scandanavian Foundation,** 127 East 73rd Street, New York, N.Y. 10021. Each silversmith represents a different approach to contemporary Swedish silver design. Jan Lundgren takes a traditional route in his "living" objects of art which merge clean angles and surfaces with the reflective quality of silver, making silver what he calls "a living art form". His work is included in the National Museum of Stockholm and was chosen to travel to Moscow as a representative example of contemporary Swedish design by King Carl XVI Gustaf of Sweden.



A more playful approach to the expressive nature of silver is taken by Kristian Nilsson, who works with shapes and decorations that attack the accepted conventions of this precious metal. A flask shaped as a hibiscus flower, or a cake-slicer in the

shape of a peacock reflect a touch of fantasy that he also includes in his jewelry. Organized by the Society for Contemporary Swedish Silver, this exhibit will be on display in the **Swedish Historical Museum** in Philadelphia in November.

November will also mark the unveiling of hundreds of beautiful sterling silver holloware and flatware products in an atmosphere of elegance and decor at the Wallace Silver showroom at the New York Merchandise Mart at 41 Madison Avenue. Rooms, such as the main showroom, pictured at right, create a traditional and fitting setting for a company which prides itself in 146 years of quality and excellence in the manufacture of fine silver. The showrooms of **Wallace Silversmiths,** Wallingford, Conn. 06410 at the NY Merchandise Mart is open to jewelers, department store buyers and other members of the trade from November 8th through November 13th. Later on, the public will have a chance to admire these fine sterling silver products of Wallace Silversmiths, as well as those of many other firms, at their convenience in the local stores that handle fine sterling silverware.

## WELCOME TO NEW SILVER INSTITUTE MEMBERS

Welcomed to membership in The Silver Institute are **Empresa Minera de Mantos Blancos, S.A.,** Casilla 570, Antofagasta, Chile, represented in Institute affairs by Mr. B. A. Reijnst, and **Environmental Reclamation Company, Inc., TMW Corporation Division,** 825 Schoenhaar Drive, West Bend, Wisconsin 53095 with its President, Gunter Woog, serving as its Official Representative in The Silver Institute.

## MOTION PICTURE "SILVER" AVAILABLE

Three hundred prints of the new, 28-minute, sound-and-color motion picture, "Silver" have been donated to the U.S. Bureau of Mines by The Silver Institute. Schools, civic and business groups, and other groups may obtain a free-loan copy by writing to Motion Pictures, U.S. Bureau of Mines, 4800 Forbes Avenue, Pittsburgh, PA 15213.

## REFINED SILVER PRODUCTION DECREASES

Central to the entire silver industry, from the miners of ores and the finders of scrap, to the millions who use finished products made with silver, are **the silver refiners.** They take the wide variety of silver-containing materials and meticulously produce the millions of ounces of silver metal of at least 99.9% purity from which are made the many silver products which are essential and valuable in our daily lives.

Ten years ago, silver industry leaders, including now President Alex Schmidt-Fellner and other current officers of The Silver Institute, initiated the program by which the Institute provides precise and timely silver refining reports every month. This is done with the cooperation of all the known U.S. refiners and of many leading refiners in other countries, who send to The Silver Institute via the American Bureau of Metal Statistics, their own confidential figures so that a set of U.S. totals and a set of Non-U.S. totals may be promptly reported on the fourth page of The Silver Institute Letter. This timely information is helpful not only to the refiners themselves, but to all who produce, use or trade in silver and silver products.

For example, it is interesting to compare the monthly rates of production of January–August 1981 with those of January–August 1980. While the production of refined silver from ores and concentrates this year was just under that for last year, the refined silver production from coins, old scrap and new scrap decreased by 32% in the U.S. and decreased by 29% in the Non-U.S. group. As a result, the rate of total production of refined silver decreased by 25% in the U.S. and decreased by 13% in the Non-U.S. group.

It is also seen that the stocks of refined silver in the hands of U.S. refiners are equivalent to only 7 days of production and that the refiners in the Non-U.S. group have stocks equivalent to only 10 days of production.

## LATEST SILVER INSTITUTE REFINING STATISTICS

Production and Disposition of **999 Silver Bars** by All Known Refiners in the United States

| | TROY OUNCES | MILLION TROY OUNCES | | | | |
|---|---|---|---|---|---|---|
| | August 1981 | Aug 1981 | Jul 1981 | Jan-Aug 1981 | Jan-Aug 1980 | Full Yr 1980 |
| THESE REFINERS' PRODUCTION, BY SOURCE | | *MONTHLY RATE* | | | | |
| From Primary (ores & concentrates) | 3,945,980 | 3.9 | 3.7 | 3.8 | 3.8 | 3.4 |
| From Coins | 67,862 | 0.1 | 0.2 | 0.2 | 1.8 | 1.4 |
| From Old Scrap (used photo film & other products) | 4,143,460 | 4.1 | 4.1 | 5.0 | 6.7 | 6.2 |
| From New Scrap (in-plant clippings, waste)* | 1,956,527 | 2.0 | 2.4 | 2.3 | 2.6 | 2.8 |
| TOTAL PRODUCTION | 10,113,829 | 10.1 | 10.4 | 11.3 | 15.0 | 13.9 |
| TOTAL PRODUCTION Less New Scrap* | 8,157,302 | 8.2 | 8.0 | 9.0 | 12.3 | 11.1 |
| ABOVE TOTAL PRODUCTION, BY OWNERSHIP | | | | | | |
| From Refiners' Own or Purchased Materials | 8,072,290 | 8.1 | 8.1 | 8.3 | 9.6 | 9.2 |
| Refined on Toll for Others | 2,041,539 | 2.0 | 2.4 | 3.0 | 5.4 | 4.7 |
| DISPOSITION BY THESE REFINERS | | | | | | |
| Converted in Plant (consumed in fabricating, etc.) | 3,129,515 | 3.1 | 2.8 | 3.3 | 4.8 | 4.9 |
| Shipped Out: Own materials | 4,662,448 | 4.7 | 6.4 | 5.0 | 5.0 | 4.5 |
| Against Tolls | 2,010,822 | 2.0 | 2.3 | 2.8 | 5.2 | 4.5 |
| TOTAL DISPOSITION | 9,802,785 | 9.8 | 11.6 | 11.1 | 15.0 | 13.9 |
| TOTAL DISPOSITION Less New Scrap* | 7,846,258 | 7.8 | 9.2 | 8.8 | 12.3 | 11.1 |
| RESULTING CHANGE OF THESE REFINERS' | | | *TOTAL FOR PERIOD* | | | |
| STOCKS (Production Minus Disposition) | +311,044 | +0.3 | −1.2 | +1.5 | −0.0+ | −0.5 |
| THESE REFINERS' STOCKS AT END OF PERIOD | 2,611,844 | 2.6 | 2.3 | 2.6 | 1.6 | 1.1 |

Production and Disposition of **999 Silver Bars** by All Known Refiners in Australia, Canada, Mexico, Peru, South Africa and Sweden; and some other Refiners in Europe and Asia.

| | TROY OUNCES | MILLION TROY OUNCES | | | | |
|---|---|---|---|---|---|---|
| | August 1981 | Aug 1981 | Jul 1981 | Jan-Aug 1981 | Jan-Aug 1980 | Full Yr 1980 |
| THESE REFINERS' PRODUCTION, BY SOURCE | | *MONTHLY RATE* | | | | |
| From Primary (ores & concentrates) | 11,735,030 | 11.7 | 12.4 | 12.0 | 12.1 | 12.0 |
| From Coins | 0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| From Old Scrap (used photo film & other products) | 4,996,693 | 5.0 | 3.3 | 5.5 | 7.8 | 7.4 |
| From New Scrap (in-plant clippings, waste)* | 857,799 | 0.9 | 0.7 | 1.0 | 1.4 | 1.4 |
| TOTAL PRODUCTION | 17,589,522 | 17.6 | 16.3 | 18.6 | 21.5 | 21.0 |
| TOTAL PRODUCTION Less New Scrap* | 16,731,723 | 16.7 | 15.6 | 17.6 | 20.0 | 19.5 |
| ABOVE TOTAL PRODUCTION, BY OWNERSHIP | | | | | | |
| From Refiners' Own or Purchased Materials | 15,444,998 | 15.4 | 14.2 | 15.7 | 17.5 | 17.2 |
| Refined on Toll for Others | 2,144,524 | 2.1 | 2.2 | 2.9 | 4.0 | 3.8 |
| DISPOSITION BY THESE REFINERS | | | | | | |
| Converted in Plant (consumed in fabricating, etc.) | 4,803,471 | 4.8 | 3.3 | 5.0 | 7.6 | 7.0 |
| Shipped Out: Own materials | 11,426,752 | 11.4 | 10.5 | 10.9 | 10.3 | 10.4 |
| Against Tolls | 1,961,291 | 2.0 | 2.2 | 2.9 | 3.3 | 3.3 |
| TOTAL DISPOSITION | 18,191,514 | 18.2 | 16.0 | 18.8 | 21.2 | 20.8 |
| TOTAL DISPOSITION Less New Scrap* | 17,333,715 | 17.3 | 15.3 | 17.8 | 19.8 | 19.3 |
| RESULTING CHANGE OF THESE REFINERS' | | | *TOTAL FOR PERIOD* | | | |
| STOCKS (Production Minus Disposition) | −601,992 | −0.6 | +0.3 | −1.4 | +2.1 | +2.3 |
| THESE REFINERS' STOCKS AT END OF PERIOD | 6,270,153 | 6.3 | 6.9 | 6.3 | 7.4 | 7.6 |

* PRODUCTION From New Scrap is 999 silver made from in-plant clippings, spillage, sweepings, etc., generated during manufacturing processes; since it is in continuous cycle from new scrap to 999 silver, to new scrap, some like to see the production and disposition totals after deducting the new scrap from both.


**THE SILVER INSTITUTE**

A WORLDWIDE ASSOCIATION OF MINERS, REFINERS, FABRICATORS AND MANUFACTURERS

INCORPORATED 1971

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